

CLAIMS:

1. A rotary hydraulic machine having a housing, a rotating group located within said housing and including a plurality of variable capacity chambers defined between pistons slideable within respective cylinders, said pistons being displaceable relative to said cylinders upon rotation of said barrel to vary the volume of said chambers and thereby induce a flow of fluid through said chambers from an inlet port to an outlet port as said rotating group rotates, an adjustment assembly including an actuator operable upon said rotating group to adjust the stroke of said pistons in said cylinder and thereby adjust the capacity of said machine, a fluid supply for said actuator and a control valve interposed between said fluid supply and said actuator to control flow to said actuator, said fluid supply including a pressurised fluid source, a hydraulic accumulator to store pressurised fluid from said source and a check valve between said accumulator and said source to inhibit flow from said accumulator to said source upon reduction of pressure at said source below that of said accumulator.
2. A rotary hydraulic machine according to claim 2 wherein said control valve is a closed centre valve and is moveable from a centred position in which flow to and from said actuator is inhibited to a first position in which flow to said actuator from said accumulator is permitted and to a second position in which flow from said actuator to a drain is permitted.
3. A rotary hydraulic machine according to claim 2 wherein a pair of actuators are utilised in said adjustment assembly and when said valve is in said first position, to one of said actuators is connected through said valve to said accumulator and the other of said actuators is connected to drain, and, when said valve is in said second position, said one of said actuators is connected to drain and said other of said actuators is connected through said valve to said accumulator.
4. A rotary hydraulic machine according to claim 3 in which each of said actuators is single acting.
5. A rotary hydraulic machine according to claim 4 wherein each of said actuators is a linear actuator having a piston displaceable within a cylinder.
6. A rotary hydraulic actuator according to claim 5 wherein each of said actuators includes a spring to bias said actuator to a maximum capacity.

7. A rotary hydraulic actuator according to claim 6 wherein said one of said springs has a greater bias than the other to move said adjustment assembly to a position of maximum capacity in the absence of pressurised fluid in said accumulator.
8. A rotary hydraulic machine according to claim 1 wherein said accumulator includes a piston displaceable within a cylinder by application of fluid pressure against a spring bias.
9. A rotary hydraulic machine according to claim 8 wherein a stop is provided to limit displacement of said piston and thereby limit the force applied by said spring.
10. A rotary hydraulic machine according to claim 9 wherein said spring is a mechanical spring located within said cylinder.
11. A rotary hydraulic machine according to claim 10 wherein said spring is a coil spring and said stop is located within said cylinder and extends through said coil spring.
12. A rotary hydraulic machine according to claim 1 wherein said valve and said accumulator are each located in respective bores in said housing and are interconnected by an internal gallery.
13. A rotary hydraulic actuator according to claim 12 said pressurised fluid source is derived from one of said ports.
14. A rotary hydraulic machine according to claim 13 wherein said one of said ports is connected by an internal bore to said accumulator and said check valve is located in said internal bore.
15. A rotary hydraulic machine according to claim 14 wherein said internal bore is connected to said internal gallery to provide fluid to both said accumulator and said valve.
16. A rotary hydraulic machine according to claim 15 wherein said valve is a closed centre valve to inhibit flow of fluid through said valve in the absence of a control signal to adjust said stroke of said pistons.
17. A rotary hydraulic machine according to claim 16 wherein said adjustment assembly includes a pair of actuators and said valve operates to supply fluid to one of said actuators from said source and connect the other of said actuators to a drain.